

Notice of Allowability	Application No.	Applicant(s)	
	10/025,982	BESHA ET AL.	
	Examiner	Art Unit	
	AHMED ELALLAM	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 11/23/2005.
2. ☒ The allowed claim(s) is/are 1-15, and 19-26 respectively renumbered 1-23.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>3/28/2002</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>03/03/06</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|---|

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Ralph Dowell on 03/03/2005.

The application has been amended as follows:

In the claims:

Claims 19, 23, 25 and 26 have been amended as indicated in the attached paper pages 5 and 6.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

The prior art of records fail to teach or suggest the followings:

An edge node comprising (inter alias):

An input port including a bitrate-estimation device adapted to compute a bitrate requirement for each of received plurality of data streams, and a bitrate-allocation device adapted to allocate a bitrate of a data stream based, at least in part, on the

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bitrate requirement computed by the bitrate-estimation device as indicated in independent claim 1.

An edge node comprising (inter alias):

An input port including a bitrate-allocation-requirement estimation device adapted to compute a bitrate requirement for data streams, and a bitrate-allocation device adapted to allocate a bitrate of a data stream the bitrate requirement computed by the bitrate-estimation device as indicated in independent claim 1.

A scheduling device operable to (inter alias) receive a bitrate allocation information from at least one input-port controller, the bitrate allocation information including a bitrate requirement for a given data stream computed by the bitrate-allocation-requirement estimation, and allocate a bitrate to the given data stream based, at least in part, on the bitrate requirement, as indicated in independent claim 19.

Conclusion

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
3/6/2006

19. An edge node for high-speed traffic processing comprising:

a switching fabric;

a plurality of input ports in communication with said switching fabric, each of said plurality of input ports having an input-port controller and at least one of said input ports including a bitrate-allocation-requirement estimator adapted to compute bitrate requirements for data streams;

a plurality of output ports in communication with said switching fabric, each of said plurality of output ports having an output-port controller; and

an edge node controller in communication with said switching fabric, each of said input-port controllers and each of said output-port controllers, said edge node controller including a high-speed scheduling device, said high-speed scheduling device operable to:

receive bitrate allocation information from at least one input-port controller, said bitrate allocation information including a bitrate requirement for a given data stream computed by said bitrate-allocation-requirement estimator;

allocate a bitrate to a given data stream based, at least in part, on said bitrate requirement;

maintain a state of a given input port associated with said at least one input-port controller;

maintain a state of each of said plurality of output ports;

assign time slots of a scheduling frame to communicate data segments from said given input port to one or more of said output ports, where the number of said time slots allocated to a given output port is based on said bitrate allocation information; and

transmit said scheduling frame to said corresponding input-port controller.

23. The edge node of claim 19 wherein ~~at least one of said input port controllers includes a~~ said bitrate-allocation-requirement estimator is adapted to control requests for changes in bitrate allocation.

25. The edge node of claim 19 wherein said input-port controller is adapted to receive a data stream that specifies a destination and said bitrate-allocation-requirement estimator is adapted to estimate a bitrate allocation requirement for said data stream and wherein said edge node controller is adapted to provide a route to said destination having said estimated bitrate allocation requirement.

26. The edge node of claim 25 wherein:

~~said input-port controller~~ bitrate-allocation-requirement estimator is adapted to estimate ~~a requirement for~~ said bitrate allocation requirement according to a hysteresis-control mechanism; and

said input-port controller is adapted to transmit a request for a change in said estimated bitrate allocation requirement for said data stream.